

AMENDMENTS TO THE CLAIMS

Upon entry of the present amendment, the status of the claims will be as is shown below. This listing of claims replaces all previous versions and listings of claims in the present application.

Listing of Claims:

1. (Currently Amended) A ~~recording~~ method of recording data to a free area of a recording area of an information recording medium, the information recording medium having ~~[[a]] the recording area for storing data and stored data~~ which is managed by a file system, wherein

the recording area of the information recording medium is managed in ~~block~~ units of blocks, and each block includes ~~a specified number of~~ at least two clusters as units for storing data for the file system, and

the data recording method comprises, ~~when necessary to record data in a new free area;~~

~~searching the blocks for a valid block which has a specified, the valid block having at least a predetermined threshold number or more of unused clusters[[,]];~~

~~managing the searched block by units of blocks;~~

~~searching for a~~ determining the valid block from the ~~managed searched blocks at data processing;~~ and

~~writing the data in the searched~~ determined valid block prior to ~~the other block~~ writing the data in the searched blocks having less than the predetermined

threshold number of unused clusters.

2. (Currently Amended) The recording method according to claim 1, wherein ~~when necessary to record data to a new free area,~~ the data are written in unused clusters in ~~[[a]]~~ the valid block ~~which has been searched.~~

3. (Currently Amended) The recording method according to claim 2, further comprising:
counting the unused clusters contained in each block in the recording area,
determining the valid block on the basis of the counting result,
generating and holding a valid free area list which is list information related to the valid block, and
searching for the valid block by referring to the valid free area list at data recording process.

4. (Currently Amended) The recording method according to claim 1, wherein information about the predetermined threshold number is acquired from the information recording medium.

5. (Currently Amended) The recording method according to claim 1, wherein the predetermined threshold number is a value of ~~1/2 or more~~ at least one-half of the number of clusters included in ~~one~~ each block.

6. (Currently Amended) A data processing apparatus for writing or reading data to or from an information recording medium, wherein

a recording area of the information recording medium is managed in ~~block~~ units of blocks, ~~[[and]] each block includes a specified number of at least two clusters, and the cluster is unit~~ the clusters are units for storing data for a file system,

the data processing apparatus comprises:

an ~~I/O-processing section~~ processor that processes input and output of information for the information recording medium;

a file system controller that manages data stored in the information recording medium, as a file;

a data processor that controls writing and reading of data to and from the information recording medium; and

a valid free area manager that manages, by units of blocks, information for ~~a block~~ the blocks containing ~~a specified at least a predetermined~~ threshold number ~~or more~~ of unused clusters in an area of the information recording medium, and

when necessary to record data to a new free area, the data processor, as a control, searches for a valid block from the managed blocks with reference to the information held in the valid free area manager, and writes data to the searched valid block prior to ~~the other block~~ writing data to another one of the managed blocks.

7. (Currently Amended) The data processing apparatus of claim 6, wherein the valid free area manager holds a valid free area list which is list information related to ~~[[a]]~~ the

valid block which is ~~a block~~ one of the blocks including ~~a specific~~ at least the predetermined threshold number ~~or more~~ of unused clusters.

8. (Currently Amended) The data processing apparatus of claim 6, wherein information about the predetermined threshold number is acquired from the information recording medium.

9. (Currently Amended) The data processing apparatus of claim 6, wherein the predetermined threshold number is a value of ~~1/2 or more~~ at least one-half of the number of clusters included in ~~one~~ each block.

10. (Currently Amended) A ~~data re-arrangement~~ method for rearranging data in a recording area of an information recording medium having a recording area for storing data ~~and stored data~~ which is managed by a file system, wherein

the recording area of the information recording medium is managed in ~~block~~ units of blocks, and each block includes ~~a specified number of~~ at least two clusters as ~~[[unit]]~~ units for storing data for the file system, and

the method comprises:

~~judging~~ determining whether the number of unused clusters contained in the each block of the information recording medium is within a ~~specified~~ predetermined range, ~~for each block of the information recording medium~~; and

moving data to unused clusters contained in the block having the number of unused clusters which is within the specified range, from used clusters in ~~other~~ another

block.

11. (Currently Amended) The ~~recording~~ method according to claim 10, wherein the specified range is ~~1 or more~~ at least one and less than ~~1/2~~ one half of the number of clusters included in ~~one~~ each block.

12. (Currently Amended) The ~~data re-arrangement~~ method according to claim 10, wherein, ~~in case that~~ when the stored data in the information recording medium is managed by a FAT file system and the FAT file system has first and second FAT tables as link information, and when a valid FAT flag showing which one of the first and second FAT tables is valid is provided,

the ~~re-arrangement~~ method further includes, after moving the data:

writing the second FAT table to the information recording medium;

setting the valid FAT flag to show that the second FAT table is valid;

copying the content of the second FAT table to the first FAT table in the information recording medium; and

setting the valid FAT flag to show that the first FAT table is valid.

13. (Currently Amended) A data processing apparatus for writing or reading data to or from an information recording medium, the information recording medium being managed in units of blocks with each block including at least two clusters as units for storing data, the apparatus comprising:

an I/O-~~processing section~~ processor that processes input and output of information for the information recording medium;

a file system controller that manages the data stored in the information recording medium, as a file;

a data processor that controls writing and reading of data to and from the information recording medium; and

a block-~~judging section~~ classifier that classifies each block in the information recording medium according to the number of unused clusters contained in each block and holds information about the classification,

wherein as a control, the data processor, with reference to the classification information held in the block-~~judging section~~ classifier, ~~judges~~ determines for each block whether or not the number of unused clusters contained in a block is within a ~~specified~~ predetermined range ~~or not~~, and when one of the ~~[[block]]~~ blocks has unused clusters within the ~~specified~~ predetermined range, moves data to the unused clusters contained in the ~~[[block]]~~ one of the blocks from used clusters of ~~other block~~ in another of the blocks.